

to *Pedicellina* by Van Beneden. Again, much as we regret to deprive a lady of her well-earned honours, we are necessitated to point out that the animal of which he gives an excellent figure and description, and on which, supposing it to be new, he confers the name of *Johnstonella Catharina*, was first described by Eschscholtz in 1825, under the name of *Tomopteris*, afterwards by Quoy and Gaimard as *Briarea*; then by Busch in 1847 and by Grube in 1848, as *Tomopteris*. It is in fact the *Tomopteris onisciformis*, and has a very extensive distribution, having been taken by the present writer in the tropical regions of the South Pacific. It is assuredly an Annelid, but a most remarkable form; and a very excellent description of its structure, by Grube, will be found in Müller's 'Archiv' for 1848.

Lapses of this kind will doubtless be corrected by our author in his second edition, and we take leave of him with our best wishes that he may soon have the opportunity of so doing.

## PROCEEDINGS OF LEARNED SOCIETIES.

### ZOOLOGICAL SOCIETY.

May 27, 1851.—W. Yarrell, Esq., V.P.L.S., in the Chair.

DESCRIPTIONS OF NEW SPECIES OF TROCHIDÆ (continued from p. 148). BY ARTHUR ADAMS, R.N., F.L.S. ETC.

#### Genus 9. ZIZIPHINUS, Leach.

*Calliostoma*, Swains.—*Labio*, sp. Oken.—*Trochilus*, sp. Humph.

1. ZIZIPHINUS ZONAMESTUS, A. Adams. *Z. testâ obliquè pyramidalî, umbilicatâ, carnêâ, cingulis transversis granosis permultis ornatâ; interstitiis purpurascensibus, striis obliquis longitudinalibus; anfractibus planis, supra suturas angulatis, ultimo acutè angulato, basi plano-concavâ, cingulis granulatis insculptâ umbilico magno, infundibuliformi, intus albo; aperturâ rhomboïdèd, intus albâ; columellâ rectâ, basi truncatâ.*

*Hab.* Honduras (Dyson).

2. ZIZIPHINUS TICAONICUS, A. Adams. *Z. testâ elevato-conicâ, perforatâ, luteâ vel carnêâ, liris transversis rufo articulatis prope suturas ornatâ; anfractibus paulum rotundatis, longitudinaliter striatis, apice atro-purpureo; anfractu ultimo subangulato, basi convexiusculâ, cingulis rufo-articulatis insculptâ; aperturâ subquadratâ; columellâ rectâ, anticè subtruncatâ; aperturâ intus albâ.*

*Hab.* Island of Ticao, sandy mud, 6 fathoms (H. C.).

3. ZIZIPHINUS JAPONICUS, A. Adams. *Z. testâ turrîto-conicâ, levî, nitidâ, imperforatâ; anfractibus planis, basi lineis duabus impressis, ultimo angulato, rubrâ flammulis fuscis et albidis ornatâ, basi convexâ, cingulis articulatis insculptâ; aperturâ subquadratâ, intus viride iridescenti.*

*Hab.* Japan.

4. *ZIZIPHINUS ELEGANTULUS*, A. Adams. *Z. testá conicá, imperforatá, lutescenti; anfractibus planis, lineis elevatis distantibus granulatis moniliformibus violaceis alternis minoribus cinctá; interstitiis longitudinaliter striatis; basi planiusculá, cingulis quatuor violaceis ornatá; aperturá subquadratá, intus albá; columellá basi subtruncatá.*

*Hab.* Malacca, coral sand, 10 fathoms (*H. C.*).

5. *ZIZIPHINUS DECUSSATUS*, A. Adams. *Z. testá elevato-conicá, subperforatá, albidá, maculis viridibus longitudinalibus ornatá; anfractibus planis, basi marginatis, prominulis; cingulis transversis granulatis lineisque elevatis longitudinalibus decussatè insculptá; anfractu ultimo angulato, basi convexiusculá, cingulis granulatis ornatá; aperturá subquadratá; columellá rectá, basi truncatá.*

*Hab.* Calipan, Mindoro, coarse gravel, 12 fathoms (*H. C.*).

6. *ZIZIPHINUS RUBROPUNCTATUS*, A. Adams. *Z. testá parvâ, orbiculato-conicá, lutescenti; cingulis transversis spinulosis ornatá (in anfractu ultimo quatuor), interstitiis clathratis pulcherrimè rubro-punctulatis.*

*Hab.* — ?

7. *ZIZIPHINUS UNICINCTUS*, A. Adams. *Z. testá turrítico-conicá, imperforatá, luteolá; anfractibus planis, subimbricatis, basi cingulis prominulis rubro-articulatis lineisque transversis confertis ornatis; anfractu ultimo angulato, basi productá, lineis concentricis et cingulá elevatá articulatá sculptá; aperturá subtrigoná; columellá rectá, basi subcanaliculatá.*

*Hab.* Lord Hood's Island, on pearl oysters, 8 to 10 fathoms (*H. C.*).

8. *ZIZIPHINUS NEBULOSUS*, A. Adams. *Z. testá conoideá, imperforatá, rufo-fuscá albo variegatá; anfractibus planiusculis, cingulis inæqualibus granorum ornatá, ultimo subangulato, basi convexiusculá, cingulis subgranulosis rufo alboque articulatis ornatá; aperturá subtetragoná; columellá albá, incurvatá, basi subtruncatá; labro intus lirato.*

*Hab.* Rains Island (*Ince*).

9. *ZIZIPHINUS PICTURATUS*, A. Adams. *Z. testá turrítico-conicá, imperforatá, viridí aut violaceá, fasciis undulatis lineisque ziczaci-formibus ornatá; anfractibus planis, basi marginatis crenulatis, lineis impressis transversis sculptá; anfractu ultimo angulato, basi convexiusculá; aperturá subquadratá, intus albá; columellá incurvá, basi truncatá.*

*Hab.* Delaguete, island of Negros, sandy mud, 7 fathoms (*H. C.*).

10. *ZIZIPHINUS ASPERULATUS*, A. Adams. *Z. testá conicá, imperforatá, albidá, maculis purpureis radiatim ornatá; anfractibus planiusculis, in medio carinatis, cingulis inæqualibus ornatá, superioribus granulatis, inferioribus subplanis; anfractu ultimo*

*subangulato, basi planâ, cingulis planis insculptâ; regione umbilicali depressâ, callo obtectâ; aperturâ subrotundâ; columellâ rectâ, basi truncatâ; labro intus lirato.*

*Hab.* — ?

11. *ZIZIPHINUS POLYCHROMA*, A. Adams. *Z. testâ turrítico-conicâ, perforatâ, viridi, fasciis albidis undulatis, lineis luteis angulatis variè pictâ; anfractibus planis, subimbricatis; basi marginatis articulatis prominulis, lineis transversis subdistantibus impressis ornatâ, longitudinaliter striatâ; anfractu ultimo angulato, basi convexiusculâ, cingulis luteo articulatis insculptâ; aperturâ subquadratâ, intus viridi; columellâ rectâ, basi subtruncatâ.*

*Hab.* Island of Masbate, sandy mud, 7 fathoms (H. C.).

12. *ZIZIPHINUS DUPLICATUS*, A. Adams. *Z. testâ turrítico-conicâ, imperforatâ; anfractibus convexis cingulis granorum ornatâ; basi cingulis duabus majoribus prominentibus instructis; interstitiis longitudinaliter striatis; anfractu ultimo subrotundato, basi convexiusculâ, cingulis granorum insculptâ; aperturâ subrotundatâ; labro intus lirato; columellâ basi tuberculo terminatâ.*

*Hab.* — ?

13. *ZIZIPHINUS CALIFORNICUS*, A. Adams. *Z. testâ elevatò-conicâ, imperforatâ, rufescenti; anfractibus subrotundatis, supra excavatis, liris transversis granulosis, duabus, supra suturam, majoribus; anfractu ultimo subrotundato, basi convexiusculâ; aperturâ subquadratâ; columellâ rectâ, anticè subtuberculatâ.*

*Hab.* California. (Mus. Cuming.)

#### Genus 10. *CANTHIRIDUS*, Montfort.

*Eleuchus*, sp. Humph.; Swains.—*Phasianella*, c., Menke.—*Trochus*, sp. Philippi.

1. *CANTHIRIDUS CINGULIGER*, A. Adams. *C. testâ elevatò-conicâ, cinereâ, punctis fuscis in lineis flammulatis dispositis, transversim sulcatâ; anfractibus planis, cingulâ prominenti supra suturam, anfractu ultimo angulato, cingulo plano cincto; umbilico subobtecto; columellâ rectâ; labro intus albo, lævi.*

*Hab.* — ?

2. *CANTHIRIDUS PUNCTULOSUS*, A. Adams. *C. testâ elevatò-conicâ, imperforatâ, lævi, nitidâ, cinereâ, transversim sulcatâ; cingulis transversis, luteo alboque punctatis nigro-maculatis ornatâ; anfractibus planis, ultimo acutè angulato; regione umbilicali rosèâ; aperturâ subquadratâ; columellâ albâ, rectâ, anticè subtruncatâ; labro intus lævi, limbo punctulato.*

*Hab.* Swan River, 4 fathoms (Jukes).

3. *CANTHIRIDUS ZEALANDICUS*, A. Adams. *C. testâ obliquè conicâ, subturritâ, imperforatâ, lævi, nitidâ; atro-purpureâ,*  
*Ann. & Mag. N. Hist. Ser. 2. Vol. xii. 14*

*lineis pallidis transversis, ubique cinctá; anfractibus paulum convexis; aperturá obliquá, subrotundatá; labio albo, simplici, arcuato; labro intus sulcato, margaritaceo, vividè iridescenti.*

*Hab.* New Zealand.

4. *CANTHIRIDUS MONILIGER*, A. Adams. *C. testá elevato-conicá, imperforatá, cinereá, cingulis moniliformibus transversis ornatá; interstitiis longitudinaliter elevatè striatis; anfractibus planis, apice purpureo, suturá canaliculatá; anfractu ultimo angulato; aperturá subquadratá; columellá anticè subtruncatá; labro intus sulcato.*

*Hab.* Swan River, 8 fathoms (Jukes).

5. *CANTHIRIDUS ARTICULARIS*, A. Adams. *C. testá elevato-conicá, lævi, nitidá, cinereá; cingulis confertis, nigro alboque articulatis ornatá; interstitiis longitudinaliter striatis; anfractibus planis, ultimo angulato, basi planiusculá, cingulis articulatis sculptá; aperturá subquadratá; columellá anticè subtruncatá; labro intus lævi, limbo articulado.*

*Hab.* —?

6. *CANTHIRIDUS ARTIZONA*, A. Adams. *C. testá elevatè conoidéá, pallidá; cingulis carneolis angustis elevatis transversis ornatá; interstitiis transversim striatis; anfractu ultimo angulato; aperturá intus viridescenti; labro intus lirato, limbo rufo articulado.*

*Hab.* —?

7. *CANTHIRIDUS RUFOZONA*, A. Adams. *C. testá conoidéá, pallidá, cingulis rubris transversis interstitiis planis ornatá; anfractu ultimo rotundato; labro intus albo, lævi, limbo rufo-articulado; columellá albá.*

*Hab.* —?

8. *CANTHIRIDUS TENEBROSUS*, A. Adams. *C. testá parvâ, elevato-conicá, imperforatá, subnigrâ, transversim sulcatá, sulcis albicantibus planis; anfractibus paulum convexis, ultimo subangulato, basi convexâ; aperturá subrotundatá, intus albâ, margaritaceâ; labro intus sulcato.*

*Hab.* —?

9. *CANTHIRIDUS NIGRICANS*, A. Adams. *C. testá depresso-conicá, atro-purpureá, cingulis elevatis transversis ornatá; interstitiis longitudinaliter obliquè striatis; anfractu ultimo subangulato; labro intus albo, sublævi, limbo nigro.*

*Hab.* —?

10. *CANTHIRIDUS PALLIDULUS*, A. Adams. *C. testá elevato-conicá, imperforatá, pallidá; cingulis transversis elevatis luteo-articulatis ornatá; interstitiis concinnè longitudinaliter striatis; columellá subrectá, in medio tumidá; labro intus lirato.*

*Hab.* Australia.

## Genus 11. ELEUCHUS, Swains.

*Phasianella*, d., Menke.—*Canthiridus*, sp. Gray.

1. ELEUCHUS VULGARIS, A. Adams. *E. testá ovato-conoideá, subturritá, imperforatá, lævigatá, virenti, transversim tenuissimè striatá; lineis undulatis viridis pictá, basi convexá; aperturá ovatá; columellá basi dente acuto terminatá; labro posticè subangulato.*

*Hab.* Swan River.

2. ELEUCHUS RUTILUS, A. Adams. *E. testá turrito-conicá, imperforatá; spirá acuminatá, virido-fuscá, lineis longitudinalibus rufescentibus ornatá, transversim striatá; anfractu ultimo vix angulato; aperturá intus vividè iridescente; labro viridi marginato.*

*Hab.* Australia.

## Genus 12. BANKIVIA, Deshayes.

1. BANKIVIA MAJOR, A. Adams. *B. testá ovato-turritá, nigro-fuscá albo variegatá, lævigatá, longitudinaliter obliquè striatá; anfractu ultimo ventricosò, transversim sulcato; columellá albá, tortuosá.*

*Hab.* Australia. Mus. Cuming.

2. BANKIVIA NITIDA, A. Adams. *B. testá turritá, acuminatá, carneolá, suturis nigricantibus, lævi, nitidá, transversim tenuissimè striatá; columellá anticè tortuosá; labro ad marginem nigricante.*

*Hab.* Australia. Mus. Cuming.

## Genus 13. THALOTIA, Gray.

*Elenchus*, sp. Humph.—*Helenchus*, Herman.

1. THALOTIA ZEBUENSIS, A. Adams. *Th. testá elevato-conoideá, perforatá, atro-fuscá, fasciis longitudinalibus ornatá, transversim sulcatá; anfractibus planulatis, ultimo rotundato, basi convexá; labio subrecto, anticè reflexo, dilatato; aperturá sub-circulari, intus albá; labro intus lævi, atro-marginato.*

*Hab.* San Nicholas, island of Zebu, sandy mud, 6 fathoms (H.C.).

2. THALOTIA STRIGATA, A. Adams. *Th. testá turrito-conicá, perforatá, albidá, fasciis latis rufo-fuscis radiatá; anfractibus in medio angulatis porcis transversis subgranulosis, interstitiis longitudinaliter striatis ornatá, basi convexá, concentricè porcatá; umbilico aperto; aperturá subrotundatá; columellá subflexuosá, basi truncatá; labro intus lirato, margine crenulato.*

*Hab.* Swan Point, N. Australia (Dring).

3. THALOTIA ZEBRIDES, A. Adams. *Th. testá turrito-conicá, subperforatá, virescenti, lineis atro-purpureis longitudinalibus ornatá, porcis transversis confertis sculptá, longitudinaliter striatá, basi convexá; umbilico subobtecto; columellá sinuatá, callo terminatá; labro intus lirato, margine atro-purpureo articulato.*

*Hab.* —?

4. *THALOTIA SUTURALIS*, A. Adams. *Th. testá conicá, subperforatá, virescenti, lineis purpureis longitudinalibus undulatis ornatá, transversim liratá, longitudinaliter striatá; anfractibus planis, supra suturam elevatis; suturá canaliculatá, basi planiusculá; columellá brevi, basi tuberculo terminatá; labro intus lævi, viridi.*

*Hab.* Cape Upstart, Torres Straits, Australia, under stones, low water (*Dring*).

5. *THALOTIA TRICINGULATA*, A. Adams. *Th. testá conicá, imperforatá, nigrá, lineis albis longitudinalibus ornatá; anfractibus angulatis, ultimo cingulis tribus transversis prominentibus instructo, basi convexá, cingulis concentricis nigro alboque articulatis ornatá; labio ad basin tuberculato; aperturá subrotundatá, intus albá; labro intus liris elevatis, atro-marginato.*

*Hab.* —?

6. *THALOTIA CRENELLIFERA*, A. Adams. *Th. testá elevatoconicá, imperforatá, rufescente, rubro maculosá; spirá acuminatá, apice rubro; anfractibus planulatis, liris confertis, crenellatis, transversis, interstitiis obliquè longitudinaliter striatis; anfractu ultimo subangulato, basi convexiusculá; aperturá subquadratá, intus albá; columellá albá, incurvatá, anticè truncatá.*

*Hab.* Australia. Mus. Cuming.

#### Genus 14. MONODONTA, Lamarck.

*Monodon*, Schweiger.—*Monodontes*, Montfort.—*Odontis*, Sow.—*Trochidon*, Swains.—*Diloma*, Phil.—*Trochulus*, sp. Humph.

1. *MONODONTA RUGULOSA*, A. Adams. *M. testá ovatoconoidé, depressá, atro-fuscá, fasciis latis luteo-albis irregulariter pictá, cingulis rotundatis interruptis ornatá; columellá basi bituberculatá, canali parallelo instructá, dente magno acuto terminatá; labro duplicato, intus lirato.*

*Hab.* —?

2. *MONODONTA CIRCUMCINCTA*, A. Adams. *M. testá ovatoconoidé, imperforatá, lævi, nitidá, crassá, cingulis rubris albo viridi maculatis alternantibus pictá; anfractibus convexis; columellá basi tuberculatá, dente magno acuto terminatá; labro duplicato, intus lirato.*

*Hab.* Island of Ticao, on the stones on reefs at low water (*H. C.*).

3. *MONODONTA TUBERCLATA*, A. Adams. *M. testá ovatoconoidé, imperforatá, crassá, viridescenti, cingulis tuberculorum oblongorum violaceorum ornatá; anfractibus convexis; columellá basi trituberculatá, canali parallelo instructá, dente prominente acuto terminatá; labro duplicato, intus lirato.*

*Hab.* —?

#### Subgenus ARADASIA, Gray.

Operculum suborbicular, paucispiral.

*Aradasia*, Gray, in Mrs. Gray's Figures of Molluscous Animals, p. 90.  
—? *Otaria*, Cantr.

1. *MONODONTA SULCIFERA*, A. Adams. *M. testá globoso-*

*conicá, umbilicatá, fuscá, cingulis granorum distantium moniliformibus, interstitiis profundè sulcatis, sulcis sublævibus longitudinaliter striatis ornatá; columellá ad basin trisulcatá, dente parvo acuto instructá; labro tenui, intus sulcato.*

*Hab.* Roebuck Bay, North Australia (*Dring*).

2. **MONODONTA CLATHRATA**, A. Adams. *M. testá ovato-conoideá, albá, imperforatá, cingulis subgranosis distantibus ornatá, in anfractu ultimo septem, interstitiis costulis longitudinalibus eleganter clathratis; columellá tuberculo parvo terminatá; labro intus sulcato.*

*Hab.* Guidulman, island of Bohol, rocky ground, 60 fathoms (*H. C.*).

3. **MONODONTA TRICINGULATA**, A. Adams. *M. testá globoso-conoideá, umbilicatá, rubente, albo et fusco variegatá, cingulis parvulis granorum ornatá; suturá canaliculatá; anfractibus convexis, carinis tribus transversis prominentibus cinctis; umbilico profundo; columellá ad basin tuberculo parvo terminatá; labro expanso, tenui, intus lævi.*

*Hab.* Malacca; Singapore, fine sand, 6 fathoms (*H. C.*).

4. **MONODONTA PHILIPPINA**, A. Adams. *M. testá globoso-conicá, perforatá, fuscá nigro punctatá; cingulis granulatis inæqualibus ornatá, interstitiis clathratulis; umbilico parvo; columellá tuberculo parvo terminatá; labro intus sulcato.*

*Hab.* Puerto Galero, island of Mindoro, in coarse sand, 9 fathoms; Bolinao, province of Zambales, island of Luzon, sandy mud, 10 fathoms (*H. C.*).

5. **MONODONTA EDENTULA**, A. Adams. *M. testá ovato-conoideá, umbilicatá, fuscá, costellis transversis imbricatis, interstitiis clathratis sculptá; anfractibus valde rotundatis; umbilico infundibuliformi; columellá subrectá, basi tuberculo terminatá; labro margine crenulato.*

*Hab.* Catbalonga, island of Samar, sandy mud, 6 fathoms (*H. C.*).  
*Mus.* Cuming.

6. **MONODONTA FOVEOLATA**, A. Adams. *M. testá globoso-conoideá, subperforatá, crassá, albá, cingulis transversis nodulosis subdistantibus (in anfractu ultimo septem), interstitiis costellis longitudinalibus foveolatis ornatá; columellá dente minuto terminatá; labro intus crasso et lirato.*

*Hab.* Lord Hood's Island, on pearl oysters, 8 to 10 fathoms (*H. C.*).  
*Mus.* Cuming.

7. **MONODONTA EXIGUA**, A. Adams. *M. testá parvá, conoideá, umbilicatá, albidá fusco variegatá, cingulis transversis granulosis interstitiis longitudinaliter liratis ornatá; anfractibus parum convexis, ultimo subangulato; umbilico recto, dente valido acuto terminatá; labro intus sulcato.*

*Hab.* Japan (*Siebold*).

8. **MONODONTA RUBRA**, A. Adams. *M. testá globoso-conoideá, umbilicatá, rubrá, cingulis transversis granorum moniliformibus*

*æquantibus interstitiis lineis longitudinalibus impressis ornatâ; anfractibus rotundatis, suturâ canaliculatâ, umbilico magno; columellâ rectâ, dente prominente terminatâ; labro intus crasso, sulcato.*

*Hab.* — ?

9. *MONODONTA ALVEOLATA*, A. Adams. *M. testâ globoso-conoideâ, umbilicatâ, albidâ, fasciis fuscis longitudinalibus undulatis pictâ, cingulis transversis granorum acutorum interstitiis costis longitudinalibus alveolatis ornatâ; suturâ canaliculatâ; umbilico angusto; columellâ rectâ, dente valido terminatâ; labro intus valde lirato.*

*Hab.* Guidulman, island of Bohol, rocky ground, 60 fathoms; Baclayon, island of Bohol, under stones, low water; island of Capul, on the reefs at low water (*H. C.*). Mus. Cuming.

10. *MONODONTA ANGULIFERA*, A. Adams. *M. testâ elevato-conoideâ, imperforatâ; anfractibus planiusculis, imbricatis, infernè angulatis, longitudinaliter nodoso-costatis, cingulis transversis tuberculorum subdistantium interstitiis alveolatis ornatâ; anfractu ultimo subangulato; columellâ rectâ, brevi, dente parvo terminatâ; labro subduplicato, intus sulcato.*

*Hab.* Puerto Galero, island of Mindoro, sandy mud, 6 fathoms (*H. C.*). Mus. Cuming.

11. *MONODONTA STRANGEI*, A. Adams. *M. testâ conoideâ, perforatâ, fuscâ, cingulis granorum æqualibus confertis ornatâ; anfractibus parum convexis, ultimo subangulato; columellâ curvatâ, dente obtuso terminatâ; labro intus sulcato, tuberculo propè basin columellæ.*

*Hab.* Sydney, under stones (*Strange*).

12. *MONODONTA PUNCTIGERA*, A. Adams. *M. testâ globoso-conoideâ, umbilicatâ, albâ fusco punctatâ, cingulis granulosis inæqualibus rufo-punctatis ornatâ; suturâ canaliculatâ; anfractibus rotundatis; umbilico aperto, infundibuliformi; columellâ rectâ, brevi, basi bituberculatâ, dente parvo acuto terminatâ; labro expanso, intus sulcato.*

*Hab.* Singapore, fine sand, 6 fathoms (*H. C.*). Mus. Cuming.

13. *MONODONTA EXASPERATA*, A. Adams. *M. testâ globoso-conoideâ, umbilicatâ, subdepressâ, albidâ nigro-variegatâ, cingulis spino-granulatis exasperatâ; columellâ sinuatâ, dente prominenti terminatâ; labro incrassato, duplicato, intus valde lirato.*

*Hab.* Sibonga, island of Zebu, at low water (*H. C.*); island of Siquijor, under stones. Mus. Cuming.

14. *MONODONTA SPILOTA*, A. Adams. *M. testâ parvâ, ovato-depressâ, conoideâ, imperforatâ, lævi, nitidâ, viridi, maculis pallidis triangularibus; columellâ planâ, albâ, canali parallelo instructâ, dente obtuso terminatâ; labro duplicato, intus lirato.*

*Hab.* — ?



15. **MONODONTA LIROSTOMA**, A. Adams. *M. testá elevato-conicá, imperforatá, albidá; anfractibus planis, cingulis tribus granulatis, interstitiis valde clathratis; suturá canaliculatá; anfractu ultimo angulato; columellá tuberculatá; labro intus valde lirato.*

*Hab.* Lord Hood's Island, on pearl oysters, 8 to 10 fathoms (H.C.).  
Mus. Cuming.

Genus 15. **LABIO**, Oken.

*Osilinus*, Philippi.—*Trochius*, Leach.—*Gibbium*, Gray.—*Monodonta*, sp. Lamck.—*Melagraphia*, Steutz.

1. **LABIO PORCATA**, A. Adams. *L. testá ovato-conoideá, imperforatá, fuscá albo reticulatá; anfractibus convexis, transversim carinatis, carinis numerosis, elevatis, distantibus; labio albo, infernè subcalloso; labro intus sulcato.*

*Hab.* Australia.

2. **LABIO PORCIFERA**, A. Adams. *L. testá orbiculato-conicá, imperforatá, fulvescente, liris transversis æquidistantibus nigro-articulatis ornatá; longitudinaliter obliquè striatá; labio plano, regione umbilicali impresso; columellá tuberculis duobus, inferiore majore; labro intus duplicato, margine luteo nigro-articulato.*

*Hab.* — ?

3. **LABIO RUDIS**, A. Adams. *L. testá orbiculato-conicá, imperforatá; spirá obtusá, lutescente, lineis transversis nigris ornatá, longitudinaliter obliquè striatá, transversim subexaratá; labio complanato; columellá anticè subtuberculatá; labro nigro luteoque intus marginato.*

*Hab.* Australia.

4. **LABIO FULIGINEA**, A. Adams. *L. testá orbiculato-conicá, imperforatá, nigrá, liris transversis æquidistantibus luteo-articulatis ornatá; regione umbilicali impressá; columellá tuberculis duobus, antico majore; labro duplicato, nigro-marginato.*

*Hab.* — ?

5. **LABIO CORROSA**, A. Adams. *L. testá turbinatá, imperforatá, spirá elevatiusculá, anfractibus rotundatis, rugosá, cinereo-lutescente; anfractu ultimo subangulato; labio complanato; columellá simplici; labro luteo marginato.*

*Hab.* New Zealand (Hart).

6. **LABIO CONCOLOR**, A. Adams. *L. testá turbinato-conicá, imperforatá; spirá acutá, brunneá, longitudinaliter obliquè striatá, transversim subliratá; labio complanato, regione umbilicali impresso; columellá arcuatá, anticè tuberculo terminatá; labro nigro-fusco marginato.*

*Hab.* New Zealand (Hart).

Genus 16. CHLOROSTOMA, Swainson.—*Oxysteles*, Philippi.

1. CHLOROSTOMA CASTANEUM, A. Adams. *C. testá obliquè conicá, umbilicatá, castaneá; anfractibus planis, longitudinaliter obsolete nodoso-plicatis et obliquè striatis, penultimo infra marginato, ultimo acutangulo, basi concavo pallidè fuscá, lineis viridi-fuscis radiatim pictá; umbilico infundibuliformi, perpectivo, intus albo, peromphalo albo lineá elevatá cincto; aperiturá subrhomboideá; columellá supra sinuatá, basi dente terminatá.*

*Hab.* — ?

2. CHLOROSTOMA UNDULOSUM, A. Adams. *C. testá globoso-conicá, imperforatá; spirá depressá, virescenti lineis undulatis atro-purpureis longitudinalibus ornatá, longitudinaliter substriatá; labio complanato, margine columellari subtuberculato; labro intus sulcato, margine luteo, atro-purpureo articulado.*

*Hab.* New Zealand (Earl).

3. CHLOROSTOMA TURBINATUM, A. Adams. *C. testá turbinatá, profundè umbilicatá, nigrá; spirá obtusá, longitudinaliter subplicatá, transversim sulcosá; anfractu ultimo rotundato, regione umbilicali partim callo lutescente obtectá; columellá anticè bituberculatá; labro nigro marginato.*

*Hab.* — ?

4. CHLOROSTOMA RUGOSUM, A. Adams. *C. testá turbinato-conoidali, profundè umbilicatá, luteo-fuscá, nigro variegatá, longitudinaliter nodoso-plicatá, transversim sulcatá; anfractu ultimo rotundato, infra suturam angustato; columellá incurvatá, anticè bituberculatá, tuberculo supremo magno, prominente; labro fusco marginato.*

*Hab.* — ?

5. CHLOROSTOMA CORRUGATUM, A. Adams. *C. testá orbiculato-conoidali, profundè umbilicatá; spirá subacutá, longitudinaliter corrugato-plicatá et obliquè striatá; anfractu ultimo subrotundato, basi plano convexo, regione umbilicali albido subcalloso; columellá tuberculis duobus, supremo magno.*

*Hab.* — ?

6. CHLOROSTOMA TROPIDOPHORUM, A. Adams. *C. testá orbiculato-depressá, profundè umbilicatá; spirá brevi, nigrá, transversim sulcatá, cingulis transversis prominentibus ornatá; anfractu ultimo carinato, basi concentricè exarato, regione umbilicali albo sulco circulari circumdato; columellá tuberculis duobus, supremo acuto, prominente.*

*Hab.* Valparaiso.

7. CHLOROSTOMA MACULOSUM, A. Adams. *C. testá conicá, profundè umbilicatá, viridi-fuscá, maculis nigro-fuscis ornatá; anfractibus planulatis, longitudinaliter substriatis, transversim striatis; anfractu ultimo angulato, basi concavo; columellá anticè tuberculo acuto terminatá.*

*Hab.* — ?

8. *CHLOROSTOMA SEMINODOSUM*, A. Adams. *C. testá depresso-conicá, profundè umbilicatá, fuscá; anfractibus planulatis, supernè subnodosis, longitudinaliter obliquè striatis; anfractu ultimo angulato, supra angulum cingulá transversá elevatá ornató, basi planiusculá; columellá tuberculis duobus, supremo acuto, prominente.*

*Hab.* —?

9. *CHLOROSTOMA ARTICULATUM*, A. Adams. *C. testá orbiculato-conicá, umbilicatá, nigro-fuscá, cingulis transversis elevatis albo-articulatis ornatá; anfractu ultimo subangulato, basi cingulis albo-articulatis instructo, regione umbilicali viridi; columellá tuberculo parvo terminatá.*

*Hab.* —?

10. *CHLOROSTOMA XANTHOSTIGMA*, A. Adams. *C. testá conoideá, imperforatá, glabrá, nigrá, longitudinaliter obliquè substriatá; anfractibus parum rotundatis, basi concentricè lirate, luteo-carneolo; regione umbilicali callo luteo obtectá; columellá arcuatá, basi dente terminatá et infra tuberculo instructá.*

*Hab.* —?

11. *CHLOROSTOMA TURBINATUM*, A. Adams. *C. testá ovato-conoideá, imperforatá, castaneá, lævi, longitudinaliter obliquè conoidá, striis transversis indistinctis insculptá; anfractibus rotundatis, suturá angustè canaliculatá, regione umbilicali impressá; labio curvato, basi dente et tuberculo terminatá; labro intus sulcato.*

*Hab.* —?

#### Genus 17. *GIBBULA*, Leach.

*Trochus*, sp. Linn.—*Steromphala*, Leach.—*Monodonta*, sp. Lam

1. *GIBBULA SULCOSA*, A. Adams. *G. testá conoideá, umbilicatá, maculis roseis flammulis albo-punctatis variegatá, anfractibus paulum convexis, longitudinaliter substriatá, transversim sulcatá, sulcis subdistantibus, anfractu ultimo subangulato, basi convexiusculá, lineis impressis concentricis sculptá; aperturá suborbiculari; columellá supernè sinuatá, basi subtruncatá.*

*Hab.* Sir C. Hardy's Island, North Australia, 8 fathoms, coarse sand (Mr. Jukes).

2. *GIBBULA MINDORENSIS*, A. Adams. *G. testá elevato-conoideá, perforatá, viridi-fuscá, fasciis pallidis longitudinalibus ornatá; anfractibus rotundatis, liris transversis subgranulosis cinctis, ultimo subangulato, basi convexá; columellá subrectá, basi tuberculo terminatá; labro intus sulcato.*

*Hab.* Puerto Galero, island of Mindoro, in coarse sand, 9 fathoms (H. C.).

3. *GIBBULA UNDOSA*, A. Adams. *G. testá orbiculato-conoideá, umbilicatá, virescenti, lineis fusco-viridibus undatis longitudina-*

*libus pictá; anfractibus rotundatis, transversim tenuè liris, ultimo subangulato, basi convexá; aperturá expansá, intus iridescenti; columellá supernè sinuatá, basi rotundatá.*

*Hab.* — ?

4. *GIBBULA PORCELLANA*, A. Adams. *G. testá depresso-conicá, latè umblicatá, glabrá, solidá, nitidá, lacteá, lineis radiantibus undulatis pulcherrimè pictá; anfractibus planis cingulis prominentibus, duabus maculis albis et rufo-fuscis vividè pictis ornatá; interstitiis transversim sulcatis, basi convexiusculá, cingulis concentricis lineis maculisque rufo-fuscis ornatá; umbilico perspectivo, intus concentricè liris, margine lineá elevatá cincto; columellá subrectá, basi rotundatá.*

*Hab.* New Holland.

5. *GIBBULA PULCHRA*, A. Adams. *G. testá orbiculato-conicá, umblicatá, roséá, ad suturam albo luteo fuscoque radiatim pulcherrimè pictá; anfractibus planis, biangulatis, transversim sulcatis, sulcis rubro-articulatis, anfractu ultimo angulato, cingulá albo luteo nigro fuscoque eleganter pictá, basi convexá, concentricè sulcatá; umbilico intus albo, basi rotundatá.*

*Hab.* Australia.

6. *GIBBULA KALINOTA*, A. Adams. *G. testá orbiculato-conoidéá, perforatá, virescenti, carneo cinereo variegatá; anfractibus rotundatis, lineis elevatis albo-articulatis, supernè gibbosis; suturá profundá, anfractu ultimo rotundato, basi convexá, cingulis articulatis concentricis ornatá, margine umbilici angulato, lineá elevatá cincto; columellá supernè sinuatá, basi subtruncatá; labro intus lævi.*

*Hab.* — ?

7. *GIBBULA VENUSTA*, A. Adams. *G. testá orbiculato-conoidéá, umblicatá, viridi-fuscá, maculis albis prope suturas, cingulis subdistantibus fusco rubroque articulatis, interstitiis liris, longitudinaliter obliquè striatá; anfractibus supernè gibbosis, rubro pictis; suturá canaliculatá, anfractu ultimo rotundato, basi convexiusculá, cingulis fusco alboque articulatis, regione umbilicali roséa pictá; columellá sinuatá, basi truncatá.*

*Hab.* Australia.

8. *GIBBULA PUNCTO-COSTATA*, A. Adams. *G. testá turritico-conicá, lutescenti, umblicatá; anfractibus supernè cingulis tribus nodulosis, rubro-articulatis nodulis punctatis, infernè liris transversis nodulosis rubro-articulatis, infra, cingulá punctonodosá basi planá, cingulis concentricis subnodosis rubro-articulatis ornatá, margine umbilici lineá elevatá cinctá; columellá subrectá, basi truncatá; labro intus liris.*

*Hab.* Island of Capul, on the reefs at low water (H. C.).

9. *GIBBULA LEUCOSTICTA*, A. Adams. *G. testá conoidéá, perforatá, nigrá, punctis lacteis pictá, anfractibus convexiusculis,*

*transversim lirata, longitudinaliter striata, liris subdistantibus albo-punctatis, interstitiis lineis elevatis transversis ornatâ; anfractu ultimo angulato, basi convexiusculâ, cingulis nigro alboque articulata; aperturâ subrotundatâ; columellâ supernè sinuatâ, basi rotundatâ.*

*Hab.* Gindulman, island of Bohol, rocky ground (H. C.).

10. *GIBBULA NIVOSA*, A. Adams. *G. testâ orbiculato-conoideâ, umbilicatâ, cinereâ, maculis nivosis subrotundatis pictâ, transversim sulcatâ, longitudinaliter substriatâ; aperturâ subrotundatâ; columellâ flexuosâ, basi rotundatâ.*

*Hab.* —?

Genus 18. *MONILEA*, Swainson.—*Talopia*, Gray.

1. *MONILEA LENTIGINOSA*, A. Adams. *M. testâ orbiculato-conicâ, umbilicatâ, albidâ, luteo fuscoque variegatâ; anfractibus rotundatis, cingulis subgranulosis confertis ornatis, ultimo rotundato, basi convexiusculâ, regione umbilicali excavatâ; columellâ supernè callosâ, basi dente terminatâ; labro intus lirato.*

*Hab.* Ilo Ilo, island of Panay, 7 fathoms (H. C.).

2. *MONILEA KALISOMA*, A. Adams. *M. testâ orbiculato-conoideâ, umbilicatâ, lutescenti, cingulis purpureo-articulatis ornatâ, cingulis subdistantibus, supremis granulatis, infimis planis; anfractibus planiusculis, ultimo subangulato, basi paulum convexâ, cingulis purpureo-maculatis insculptâ; columellâ supernè sinuatâ, basi dente terminatâ; labro intus lirato.*

*Hab.* —?

3. *MONILEA PLUMBEA*, A. Adams. *M. testâ orbiculato-conoideâ, umbilicatâ, plumbeâ; anfractibus rotundis, cingulis granorum transversis in paribus dispositis ornatâ, basi convexâ; umbilico mediocri, intus albo; columellâ brevi, supernè sinuatâ, basi dente terminatâ; labro intus lirato.*

*Hab.* —?

4. *MONILEA LIRATA*, A. Adams. *M. testâ orbiculato-conicâ, umbilicatâ, pallidâ; anfractibus paulum convexis, liris transversis elevatis distantibus, interstitiis decussatè striatis ornatis; anfractu ultimo angulato, basi convexâ, margine umbilici sulco cincto.*

*Hab.* —?

5. *MONILEA PUSILLA*, A. Adams. *M. testâ orbiculato-conicâ, umbilicatâ, rubescenti, fusco variegatâ; anfractibus planiusculis, cingulis granorum transversum distantibus (circa quatuor) ornatis, interstitiis transversim striatis; columellâ in medio sinuatâ.*

*Hab.* —?

6. *MONILEA SWAINSONII*, A. Adams. *M. testâ conoideâ, umbilicatâ, albidâ, nigro variegatâ; anfractibus planis, cingulis subgranosis, albo nigroque articulatis ornatis, ultimo subangulato,*

*basi planiusculá, cingulis rufo-articulatis ornatá; columellá basi tuberculatá; labro intus lirateo.*

*Hab.* —?

Genus 19. MARGARITA, Leach.—*Trochus*, sp. Auct.

1. MARGARITA CARINATA, A. Adams. *M. testá elevato-conicá, perforatá, fuscá, liris transversis ornatá, superioribus duabus costellis longitudinalibus decussatis, inferioribus planis, interstitiis longitudinaliter tenuissimè striatis; basi planiusculá, cingulis concentricis, interstitiis radiatim striatis insculptá; margine umbilici crenulato.*

*Hab.* Catbalonga, coarse sand, 8 fathoms (H. C.).

2. MARGARITA ANGULATA, A. Adams. *M. testá orbiculato-conicá, latè umbilicatá, albídá, fusco variegatá; anfractibus supra angulatis, transversim omnino striatis; basi convexá, concentricè striatá; umbilico magno, perspectivo.*

*Hab.* Sandwich Islands.

3. MARGARITA CALOSTOMA, A. Adams. *M. testá conoideá, crassá, perforatá, transversim valdè sulcatá, albídá; anfractibus subrotundatis, ultimo subangulato; aperturá rotundá, intus vividè violascenti iridescenti; umbilico callo, columellari subobtecto; labri margine argenteo.*

*Hab.* Juan de Fuco, Upper California.

4. MARGARITA CUMINGII, A. Adams. *M. testá elevato-conicá, cinereá, lineis fuscis undulatis pictá, latè umbilicatá; anfractibus costellis transversis ornatis, ultimo tribus liris intermediis cincto, longitudinaliter elevatè striato; umbilico magno, cingulá crenulatá cinctá, intus lineis radiantibus et transversis eleganter decussato.*

*Hab.* Philippines.

5. MARGARITA VARIABILIS, A. Adams. *M. testá orbiculato-conicá, subdepressá, latè umbilicatá, pallidá, fusco griseo alboque variè pictá; anfractibus rotundatis, transversim valdè sulcatis; umbilico perspectivo, margine crenulato; basi planiusculá; labio margine subcrenulato.*

*Hab.* —?

6. MARGARITA BALTEATA, A. Adams. *M. testá orbiculato-conicá, vix umbilicatá, griseá, fusco tessellatá; anfractibus gibbosis, transversim valdè sulcatis; anfractu ultimo subangulato; basi planiusculá, concentricè sulcatá; columellá curvatá, vix truncatá.*

*Hab.* —?

7. MARGARITA TESSELLATA, A. Adams. *M. testá depresso-conicá, latè umbilicatá, lævi, cinereá, regulariter griseo tessellatá; anfractibus planiusculis, ultimo subangulato; basi convexá; umbilico intus albido; aperturá rotundá, intus viridi-iridescenti.*

*Hab.* —?

## Subgenus PHOTINA, H. and A. Adams.

Shell smooth, subconical; spire depressed; axis covered by a smooth callus; columella ending in a simple point.

This section includes all the species of *Margarita* that are not umbilicated.

1. PHOTINA NIGRA, A. Adams. *P. testá depresso-conicá, imperforatá, solidá, nigrá, lævi; anfractibus subrotundatis, transversim sulcatis; longitudinaliter obliquè substriatá; anfractu ultimo subangulato; regione umbilicali impressá; callo albo oblecto.*

*Hab.* — ?

2. PHOTINA FUSCA, A. Adams. *P. testá obliquá, subconicá, nítidá, fusco variegatá; anfractibus parum convexis, transversim sulcatis, ultimo subangulato; aperturá subrotundatá, intus viridi iridescenti.*

*Hab.* — ?

3. PHOTINA SANDWICHIANA, A. Adams. *P. testá orbiculato-conicá, imperforatá, lævi, albidá, viridi fuscoque maculatá; anfractibus rotundatis, ultimo subangulato, apice roseo; aperturá apertá, orbiculatá, intus viridi margaritacéa; labio albo; umbilico callo albo oblecto.*

*Hab.* Mataineka, Sandwich Islands.

Mr. Oswald then communicated the following remarks by Mr. Mack, on the fact of black eggs being laid by a white duck of the ordinary domestic breed:—

“The egg (observes Mr. Mack) which is herewith sent was laid by a white duck, one of two belonging to Mr. Dickinson of Mitcham, which stray during the day on the common, but are confined at night. The drake was lost about a month since, and then one of the ducks commenced laying black eggs, the other still continuing to lay white ones,—she laid ten or twelve and then ceased for some days; she has again commenced laying black eggs. The ducks are fed once a day with barley, at the time the other poultry are fed.

“Mr. Dickinson, showing the egg this morning to one of the guards on temporary duty on the Brighton rail at Croydon, he said he had a duck which laid the same colour, or even blacker, and that he had raised (at East Bourne) two broods of ducks from black eggs.”

Haling Cottage, Croydon, May 24, 1851.

June 10, 1851.—John Gould, Esq., F.R.S., in the Chair.

1. ON TWO NEW SPECIES OF BIRDS OF THE GENUS TÆNIOPTERA.  
BY PHILIP LUTLEY SCLATER, B.A., F.Z.S. ETC.

TÆNIOPTERA ERYTHROPYGIA, Sclater. *T. nigrescens; vertice fronte gulâque canescente-griseis; maculâ secundariorum albâ; uropygio, abdomine toto crissoque, cum tectricibus caudæ supe-*

*rioribus et alarum inferioribus levitè brunneo-rufis; reatricibus brunneo-rufis nigro terminatis; rostro pedibusque nigris.*

Long. tot. 9 unc. 5 lin.; alæ, 5 unc. 7 lin.; caudæ, 4 unc. 4 lin.; rostri à rictû, 1 unc.; à fronte, 6 lin.

*Hab.* in republicâ Equatorianâ.

Wings and interscapulars black, growing lighter towards the crown, and greyish white on front and throat; breast darkish grey; outer web of the last four or five secondaries broadly edged with white, forming a white mark on the wing; lower back and tail-coverts and whole body beneath below the breast, as also under wing-coverts, light brownish rufous; tail-feathers the same, but broadly tipped with black. For the loan of this and the following species I have to thank Mr. Edward Wilson, who received them from M. Verreaux of Paris. I was at first inclined to refer both species to the genus *Agriornis* of Mr. Gould, but having had through Mr. G. Gray's kindness an opportunity of examining the type of that form, *Agriornis lividus\** (Kittlitz), I now consider them better placed in the present genus *Tænioptera*, with which they agree in all their distinctive characters.

**TÆNIOPTERA STRIATICOLLIS**, Sclater. *T. suprâ saturatè fumoso-brunnea; uropygio paululùm rufescente tincto; superciliis rufescente-albidis; pennis caudâque nigris; secundariis tertiariisque levitè brunnescente marginatis; infrâ levitè brunneo-rufa; gutture toto colloque albis nigro striatis; reatricibus remigibusque brunneo-rufis nigro terminatis; rostro pedibusque nigris.*

Long. tot. 9 unc. 5 lin.; alæ, 5 unc. 3 lin.; caudæ, 4 unc.; rostri à rictu, 1 unc.  $\frac{1}{2}$  lin.; à fronte,  $7\frac{1}{2}$  lin.

*Hab.* in republicâ Equatorianâ.

Above dark smoke-brown; an obscure whitish line from the bill to the top of the eye; quill-feathers brown-rufous, outer margins and ends black; secondaries, tertials, and wing-coverts nearly black, margined with light brown; beneath brown-rufous; chin, throat and neck white, with longitudinal striæ of black; tail-feathers brown-rufous, the two outer broadly tipped with black; the rest have also the outer web black, except the two medial, which are wholly black. This species is of the same form as the former, from which it may be distinguished by its shorter and weaker beak, and the want of the rufous colouring on the rump and upper tail-coverts, as also by the conspicuous striæ on the neck and throat.

## 2. NOTES ON AN UNDESCRIBED SPECIES OF TAILOR-BIRD. BY DR. NICHOLSON.

It may appear irregular to use what has been meant and applied as a specific name, as a generic one, but then that name appears to me to include, and to be indiscriminately applied to, two or three distinct birds, as we may gather by looking at the accompanying sketch, by the examination of the species described by Colonel Sykes as inhabiting the Dukhun, and by reading the following description, taken from Forbes, 'Oriental Memoirs,' p. 34. vol. i., under the

\* *Tyrannus gutturalis*, Voy. de la Favorite, Ois. t. 11.



name of *Motacilla sutoria* :—“ The Tailor-bird resembles some of the humming-birds at the Brazils in shape and colour ; the hen is clothed in brown, but the plumage of the cock displays the varied tints of azure-purple, green and gold, so common in those American beauties... Often have I watched the progress of an industrious pair of Tailor-birds, in my garden, from their first choice of a plant, until the completion of the nest, and the enlargement of their young.”

Now, it is evident either that Mr. Forbes alludes to a distinct and an uncommon species, which I have never met with, or else he must have mistaken the common *Cinnyris* or Sun-bird representing the Humming-birds, and both sexes of which he has generally described above. But then the *Cinnyris* builds a common-shaped nest in the fork of a branch, in fashion resembling that of the humming-birds.

This is a resident bird, not very conspicuous, as it keeps hopping about among the brushwood and plants. It has a loud, short, and not unmelodious song ; its general cry is ‘ wheet, wheet, wheet,’ often repeated ; but its alarm-cry is like ‘ cheertah, cheertah, cheertah.’

I have found its singular sewn nest containing eggs or young at all seasons of the year, in May and in November ; and this may be owing to the vegetation of gardens being always kept up by means of artificial irrigation ; for cultivated spots seem its favourite, if not exclusive resort at least in the north of India. Though no doubt it haunts suitable jungles, I never observed it there, nor ever discovered its nest so situated ; but I have found many nests in my gardens, both at Surat and at Raghote, as well as in Cutch. It seems to prefer the leaf of the Bringal (*Solanum esculentum*), or that of the *Cucurbita octangularis*, for the purposes of nidification ; and it lays four small white eggs, marked with faint dark spots at the larger end. After selecting a fitting leaf, it proceeds by means of its feet and beak to draw the edges together, perforating holes therein, and securing their proximity by threads of cotton, with bunches at the end to prevent their giving way. Then the nest is constructed inside the leaf, now forming a sort of corve, with cotton ; the entrance is at the top, and the nest seems small in proportion to the bird. If this bird should prove a distinct species, I would suggest the name of *Sutoria agilis* for it.

Weight of the male  $2\frac{1}{2}$  drachms.

Length from bill to tail  $5\frac{1}{4}$  inches. Alar extent  $6\frac{1}{2}$  inches.

Head : bill long, slender and curved towards the point. Culmen slightly divides the frontal feathers, and is nearly on a line with the top of the head : there is an almost obsolete notch at the end of the upper mandible. Tongue short, slightly extensible, and divided into several filaments at the point. Gape wide, commissure under the eye ; a small denuded spot above the commissure. Nostrils basal, pyriform, under a tegument ; some small bristles and feathers reflexed from the canthus of the eye towards the bill and over the nares. Eyes small. Iris greenish yellow. Eyelashes edged with small feathers. Eyelids bare. Four remarkable (but inconspicuous) bristles, like feathers, project from the back part of the occiput.

Wings short and perfectly rounded ; first quill only half as long as the second ; fourth and fifth quills are longest ; the second, third

and fourth graduated; the first, third, fourth, fifth, sixth and seventh quills are emarginate on the outer web.

Tail of twelve graduated feathers, the two outer being the shortest; under-coverts are long.

Legs long, the tarsus  $\frac{7}{8}$ ths of an inch; the outer toe longer than the inner. Hallux very strong, and as long as the outer toe, with a large pad beneath the base, its claw the largest; the tarsus is covered with seven scales in front and one entire behind; two large scales lie across the front of the foot; the claws are curved and sharp.

Contents of stomach a mass of insect exuviae.

Colours: all above dull green, tinged with ash, light brown towards the end of the tail and quills, which are lighter on the edges. Two-thirds of the front breadth of the neck, round the eye, the breast, belly and thighs (except a chestnut spot on the hallux) are silver-white; there is, besides, a remarkable spot on the neck, of a brown colour, as if the white feathers had been deranged, showing the roots of a different colour. Bill ash-brown or horn-colour, the lower jaw lighter, and both lighter on the edges, as also are the legs and claws of the same colour; forehead of a fine chestnut; crown of olive-brown.

June 24, 1851.—J. E. Gray, Esq., F.R.S., Vice-President, in the Chair.

1. OBSERVATIONS ON THE DENTITION OF THE TIGER BEETLES.  
BY J. O. WESTWOOD, PRES. E.S., F.L.S. ETC.

Mr. Westwood directed the attention of the meeting to the necessity which existed of a more precise examination and description of the diversity in the dentition of the mandibles of insects, especially Hymenoptera and Coleoptera, than had hitherto been bestowed thereon. In the higher orders of animals so much importance had been given to this character, that it was remarkable that, in general, entomologists contented themselves with examining, describing, and figuring a single mandible as affording a sufficient diagnosis of the structure of both of the mandibles, overlooking the necessary result which arose from the circumstance of the horizontal instead of perpendicular action of these organs in insects, and the variation in the position of the teeth which such action must necessarily induce. In general, indeed, the teeth of the mandibles were not greatly developed, and there was a general similarity between the two jaws; but when these organs are of an increased size, and especially when the extremity of one jaw laps over that of the opposite one, a diversity in the dentition will necessarily exist. It was likewise necessary to examine the mandibles of both sexes of a species, as it occasionally happened that there was considerable difference in their dentition. These observations were illustrated by the case of the Tiger Beetles (*Cicindelidæ*), which offered a much greater range of diversity in their dentition than had hitherto been supposed. It was chiefly to the genus *Megacephala* that Mr. Westwood directed the attention of the members.

In the type of that genus (*Megacephala senegalensis*, Latr., Dej., *Cic. megalcephala*, Fabr.), an apterous species from Senegal, the right mandible of the male has two large, nearly equal-sized, acute teeth in the middle of the inner margin, the extremity being hooked and very acute; there is also a small tooth at the base of the large, broad, compound basal tooth. The left mandible is nearly similar, except that the two teeth in the middle of the inner margin are unequal in size, the upper one being the smaller of the two. The figure of the jaws of this species, given in the Crochard edition of the Animal Kingdom (Ins. pl. 16. f. 2 a), is very incorrect, being apparently reversed. The dentition of the female is almost identical with that of the male. In the allied bat-winged African species, *Megacephala 4-signata*, Dej., from Senegal, the tothing of the mandibles is similarly arranged, but the two teeth in the middle of the inner margin, in both sexes, are broad and obliquely truncate. In the male of *M. euphratica* (which has recently been observed to extend from Spain to India), the teeth are nearly as in *M. senegalensis*, except that the subapical tooth of the left mandible is considerably smaller. But in the species lately received from the north-west of Australasia (*M. Australasiæ*, Hope), we find a different arrangement as well as number in the teeth, the right mandible having three teeth in the middle of the inner margin (exclusive of the small tooth\* at the base of the upper side of the large compound basal tooth), the upper one small, the middle one very small, and lower one large, all being acute. The left mandible has also three teeth in the same position,—the upper one very small, and the middle and lower one large and nearly equal in size.

On turning to the New-World species of the genus, we find four variations in the dentition of the mandibles; the group of pale species typified by *M. æquinoctialis*, Dej. (*bifasciata*, Brullé), corresponds almost identically in the dentition of both sexes with the old type (*M. senegalensis*), as described above, the right mandible having two equal-sized large acute teeth in the middle of the inner margin, and the left one also two, the upper one being very small. For this group I have proposed the subgeneric name of *Ammosia*, in allusion to their habits, which differ materially from those of the other species.

A black-coloured species from South America (*M. sepulchralis*, Fabr., *M. variolosa*, Dej.) differs from the *Ammosia* in the left mandible, while the inner margin has only one tooth in the middle, of considerable size, and exhibiting on its *under* side a minute tooth, being all that remains of the large middle tooth of the left mandible of the *Ammosia*. This species is the type of Mr. Hope's subgenus *Anaira*.

Another very fine Brazilian species (*M. testudinea*, Klug) differs in the dentition of the sexes in a more striking manner than any of

\* This small tooth exists in all the species, and in both sexes; and as it appears to form part of the great basal tooth, I have omitted noticing it in the descriptions given in this paper.

the preceding. The right mandible of the male is long and sickle-shaped, with a small tooth obliquely truncated below the middle of the inner margin, and between this and the tip of the jaw is a minute acute tooth. The left mandible has two teeth on the inner margin above the middle, the lower one broad and acute, but rather obliquely truncate, whilst the upper one is very small. The right mandible of the female, on the contrary, has two very large equal-sized teeth in the middle of the inner margin, whereas the left jaw in this sex is quite similar to that of the male.

There still remains a numerous group of American species (the type of which is *Cic. Carolina*, Linn.), which differ from the rest of their continental brethren in possessing three teeth in the middle of the inner margin of each jaw, thus resembling the Australian species above noticed, and hence I proposed the name of *Tetracha*, or four-toothed, for this group, counting the acute apical portion of the mandible as a fourth tooth. In general, in both sexes, the tooth next below the apex of the jaw is equal in size to, or even larger than, the apical part or tooth itself (thus differing from the Australasian species), and the middle of the three teeth is smaller than the rest; but in the left mandible in the males the tooth below the apical tooth is even still larger, whilst the middle tooth is much smaller, and the lower tooth is quite minute. In the female, on the contrary, the middle one of the three teeth of the inner margin is rather larger than the upper one (which is only of a moderate size), and the lower one is small.

From these particulars (united with the peculiarities of colouring, geographical range and habits of the species) we are enabled to propose well-founded subgenera, a task which has hitherto been considered hopeless in the genera of *Cicindelidæ*. The Old-World species thus seem to form only one group, divisible however into still smaller sections from the presence or absence of wings, and form and colouring of the elytra; the Australian species stands alone; and the New-World species constitute the four following subgenera:—

AMMOSIA, Westw. Type, *M. bifasciata*, Brullé.

————, Westw. Type, *M. testudinea*, Klug.

ANAIRA, Hope. Type, *M. sepulchralis*, Fabr.

TETRACHA, Westw. Type, *M. Carolina*, Linn.

#### BOTANICAL SOCIETY OF EDINBURGH.

July 14, 1853.—Prof. Balfour, President, in the Chair.

The following papers were read:—

1. "Experiments on the Dyeing Properties of the Lichens," by W. Lauder Lindsay, M.D.

2. "On the Cryptogamic Plants of the neighbourhood of St. Andrews," by Mr. Alexander O. Black. The author stated that a residence in St. Andrews during the last eighteen months, had given him